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Acute Coronary Syndromes

CLOPIDOGREL ALONE IS NOT SUFFICIENT TO PREVENT STENT THROMBOSIS IN DIABETIC PATIENTS REQUIRING WARFARIN

Poster Contributions
Hall C
Monday, March 31, 2014, 9:45 a.m.-10:30 a.m.

Session Title: Contemporary Perspectives on Anti Platelet Pharmacodynamics and Pharmacokinetics
Abstract Category: 3. Acute Coronary Syndromes: Therapy
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Authors: *Pongpeera Taytawat, Dana Villines, Lloyd Klein, Illinois Masonic Medical Center, Chicago, IL, USA, Rush Medical College, Chicago, IL, USA*

Background: Triple therapy with ASA, clopidogrel and warfarin (ACW) is associated with increased bleeding, but there is no data that evaluates whether clopidogrel and warfarin without ASA (CW) is sufficient in preventing stent thrombosis (ST). This study tested whether omitting ASA in patients on warfarin and clopidogrel who received either BMS or DES was effective and decreased bleeding.

Methods: 396 consecutive patients undergoing PCI at a single urban center were enrolled. All were discharged on clopidogrel 75 mg. Patients already on warfarin were continued. The choice to start ASA 325 mg was at the discretion of the cardiologist. Patients were followed for at least 1 year. The drug regimen selected was maintained for at least 1 month after BMS and 1 year after DES. Primary endpoints were all-cause mortality, MI, stroke, ST, target vessel revascularization. Secondary endpoints included bleeding events.

Results: The indication for warfarin was AF in 74% and mechanical valve 12%; the remainder included VTE, severe systolic dysfunction, and the presence of LV thrombus. 48% of patients had DM. Multivariate analyses showed DM to be a statistically significant determinant of ST.

Conclusions: CW is not effective in preventing ST in DM patients requiring warfarin. ACW reduces the incidence of ST and lowers all-cause mortality but with increased bleeding. Importantly, CW prevents ST in non-DM patients who require warfarin with less bleeding events, and may be the preferred antithrombotic therapy in this subgroup.

Table 1: Baseline Characteristics

	CW Group	ACW Group	p-value
Number	228	168	
Age	63.9 (±12.0)	64.2 (±10.7)	NS
Female	57 (25.0%)	46 (27.4%)	NS
BMI	29.1 (±5.9)	31.6 (±5.4)	NS
Prior MI	97 (42.5%)	88 (52.4%)	NS
Stent	152	120	
BMS	68	56	NS
DES	84	64	NS
Risk factors			
Diabetes	108 (46.7%)	82 (48.8)	NS
Hypertension	193 (84.8%)	149 (88.9%)	NS
Dyslipidemia	163 (71.4%)	124 (73.5%)	NS
Smoker	87 (38.2%)	64 (38.3%)	NS
FH of early CAD	83 (36.5%)	87 (51.9%)	NS
Comorbidities			
Heart failure	26 (11.4%)	19 (11.3%)	NS
Preoperative LVEF	50.2 (±10.6)	50.3 (±9.9)	NS
History of stroke	32 (14.0%)	25 (14.9%)	NS
History of COPD	15 (6.6%)	7 (4.2%)	NS
Chronic kidney disease	18 (7.9%)	12 (7.4%)	NS
Other medications			
Statins	180 (78.9%)	133 (79.2%)	NS
Beta-blockers	201 (88.2%)	149 (88.7%)	NS
ACEI or ARB	166 (72.8%)	119 (70.8%)	NS
Race/Ethnicity			
White	91 (39.9%)	69 (41.1%)	NS
Asian	9 (3.9%)	7 (4.2%)	NS
African-American	43 (18.9%)	30 (17.9%)	NS
Hispanic	83 (36.4%)	61 (36.3%)	NS
Others	2 (0.9%)	1 (0.5%)	NS

Table 2: Hazard Ratio for Primary Endpoints Based on Antithrombotic Therapy

End point	CW Group		ACW Group	
	Diabetes	Non-diabetes	Diabetes	Non-diabetes
All-cause mortality	**0.77 (0.46-0.91)**	**0.54 (0.37-0.83)**	**0.84 (0.67-0.94)**	0.92 (0.79-1.21)
Composite of stroke/TVR	0.74 (0.38-1.15)	0.61 (0.43-1.07)	1.36 (0.87-1.54)	1.19 (0.74-1.41)
Composite of MI/stent thrombosis	0.59 (0.43-1.12)	**0.45 (0.36-0.70)**	**0.69 (0.49-0.82)**	0.57 (0.41-1.10)
All bleeding events	0.84 (0.51-1.19)	0.79 (0.43-1.11)	**1.62 (1.10-2.73)**	**1.78 (1.15-2.92)**

CW: clopidogrel plus warfarin; ACW: aspirin and clopidogrel plus warfarin; MI: myocardial infarction; TVR: target vessel revascularization; MI: myocardial infarction.

Figure 1: Stent Thrombosis Based on Antithrombotic Therapies and the Presence of Diabetes